

Algebra 2

Quiz Review 10.1-10.3

Name: _____

Date: _____

1. Dan is in the French club. There are 21 students in the club. Four of them will be picked at random to attend an awards banquet. What is the probability that Dan will *not* be randomly chosen to attend the banquet?

[A] $\frac{4}{21}$

[B] $\frac{21}{17}$

[C] $\frac{21}{4}$

[D] $\frac{17}{21}$

2. A spinner is evenly divided into 9 equal areas and numbered from 1 through 9. What is the probability of spinning a number less than 4 in a single spin?

[A] $\frac{4}{9}$

[B] $\frac{1}{3}$

[C] $\frac{2}{3}$

[D] $\frac{5}{9}$

3. A box contains 6 green, 5 yellow, and 3 purple balls. Find the probability of obtaining a yellow ball in a single random draw.

4. Determine the probability that you will roll a number less than 6 on a number cube.

5. A lunch menu consists of 4 different kinds of sandwiches, 2 different kinds of soup, and 3 different drinks. How many choices are there for ordering a sandwich, a bowl of soup, and a drink?

[A] 24

[B] 9

[C] 288

[D] 3

6. A cafe serves a variety of stuffed potatoes. You can choose from russet, yellow, or white potatoes with any one of 10 different fillings. How many different varieties of stuffed potatoes can you choose from?

7. How many different arrangements can be made using all of the letters in the word CRAYON?

[A] 720

[B] 36

[C] 225

[D] 6

8. Find: ${}_4P_2$

[A] 12

[B] 6

[C] 8

[D] 24

9. How many different ways can 11 different runners finish in first, second, and third places in a race?
10. A circular, rotating, serving tray has 5 different desserts placed around its circumference. How many different ways can all of the desserts be arranged on the circular tray?
 [A] 5040 [B] 120 [C] 720 [D] 24
11. How many ways can 8 keys be arranged on a circular key ring? Remember, a key ring can be turned over.
12. How many distinct committees of 21 people can be formed if the people are drawn from a pool of 27 people? Use factorials to express the answer.
 [A] ${}_{27}C_{21} = \frac{27!}{5! 21!}$ [B] ${}_{27}C_{21} = \frac{27!}{6! 21!}$ [C] ${}_{27}C_{20} = \frac{27!}{6! 20!}$ [D] ${}_{27}C_{22} = \frac{27!}{5! 22!}$
13. A hat contains 22 names, 15 of which are male. If four names are randomly drawn from the hat, what is the probability that at least two female names are drawn?
 [A] 0.923 [B] 0.378 [C] 0.622 [D] 0.077
14. How many different dogsled teams of 8 dogs can be formed if the dogs are chosen from a group of 15 dogs? Use factorials to express your answer.
15. A state lottery consists of drawing 4 numbers from the first 44 positive integers. Find the probability of winning the lottery.